

REMARKS/ARGUMENTS

Upon entry of this amendment, claims 21 – 30 are pending in the application. Herein, claims 1 – 20 have been canceled and new claims 21 – 30 have been added.

Support for this amendment is found in, for example, the descriptions at lines 20 – 24 on page 9, lines 9 – 12 on page 14, lines 5 – 9 and 13 – 17 on page 18, and line 8 on page 32 to line 18 on page 35 of the specification as originally filed and the depictions of figures 1B and 1D of the drawings as originally filed.

No new matter has been added by this amendment.

Entry of this amendment and favorable reconsideration of the application is respectfully requested.

In addition, official consideration of the Information Disclosure Statement (IDS), and approval of the drawings are respectfully requested.

Double Patenting Rejection

Claims 1 – 10 have been canceled, thus rendering the double patenting rejection moot. Therefore, the applicants respectfully request withdrawal of the double patenting rejection.

Claim Rejections - 35 USC 103 -

The examiner states that claims 1 – 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOHANTY (US2003/0216496) in view of BARBEE (US

6,391,449). Claims 1 – 20 have been canceled, thus rendering the obviousness rejection moot. Therefore, the applicants respectfully request withdrawal of the rejection.

New Claims 21 – 30

New claims 21 – 30 have been added. Claims 21 – 30 are patentable over the cited MOHANTY and BARBEE references at least for the following reasons.

With respect to independent claim 21, MOHANTY and BARBEE fail to disclose at least the recited feature of “the substituted silyl group further comprises a substituent selected from the group consisting of an amino group, an epoxyethyl group, an epoxyethyloxy group, a vinyl group, an isopropenyl group, a 1-phenylvinyl group, a 4-vinylphenyl group, an isocyanate group, and a hydroxyl group and the substituent bonds to a silicon atom of the substituted silyl group”.

In particular, MOHANTY is silent with respect to the type of an organically modified clay in paragraph [0061] of MOHANTY as indicated by the examiner on page 3 of the Final Office Action.

Furthermore, BARBEE describes that “Examples of useful pretreatment with silane compounds include those treatment disclosed in WO93/11190, incorporated herein by reference. Examples of useful silane compounds includes (3-glycidoxypropyl)trimethoxysilane, 2-methoxy(polyethyleneoxy)propyl heptamethyl trisiloxane, octadecyl dimethyl (3-trimethoxysilylpropyl) ammonium chloride and the like.” at line 65 in column 12 to line 4 in column 13. However, the above-noted claim 21 feature is not disclosed or suggested by the description of “Examples of useful silane compounds includes (3-glycidoxypropyl)trimethoxysilane, 2-methoxy(polyethyleneoxy)propyl

heptamethyl trisiloxane, octadecyl dimethyl (3-trimethoxysilylpropyl) ammonium chloride and the like.” at line 67 in column 12 to line 4 in column 13 of BARBEE.

Also, the above-noted claim 21 feature is not disclosed or suggested in WO93/11190 referred to in BARBEE. In particular, the above-noted claim 21 feature is not disclosed or suggested by the descriptions at line 26 on page 10 to line 14 on page 14 (in particular, the descriptions with respect to “R¹ groups” and “R groups”) of WO93/11190.

Thus, none of MOHANTY and BARBEE discloses or teaches at least the noted claim 21 feature of “the substituted silyl group further comprises a substituent selected from the group consisting of an amino group, an epoxyethyl group, an epoxyethoxy group, a vinyl group, an isopropenyl group, a 1-phenylvinyl group, a 4-vinylphenyl group, an isocyanate group, and a hydroxyl group and the substituent bonds to a silicon atom of the substituted silyl group”.

Therefore, independent claim 21, as well as dependent claims 22 – 25 depending therefrom, is believed patentable over the MOHANTY and BARBEE references.

With respect to independent claim 26, MOHANTY and BARBEE fail to disclose at least the recited feature of “the substituted or non-substituted alkyl group is a substituted first alkyl group, the substituted first alkyl group comprises a substituent selected from the group consisting of an amide linkage, an ester linkage, an N-oxymethyleneamino group, and an N,N-di(oxymethylene)amino group, the substituent bonds to a terminal of the first alkyl group, and the substituent comprises a non-substituted second alkyl group”.

In particular, MOHANTY is silent with respect to the type of an organically modified clay in paragraph [0061] of MOHANTY as indicated by the examiner on page 3 of the Final Office Action.

Furthermore, BARBEE describes that “Examples of useful pretreatment with silane compounds include those treatment disclosed in WO93/11190, incorporated herein by reference. Examples of useful silane compounds includes (3-glycidoxypropyl)trimethoxysilane, 2-methoxy(polyethyleneoxy)propyl heptamethyl trisiloxane, octadecyl dimethyl (3-trimethoxysilylpropyl) ammonium chloride and the like.” at line 65 in column 12 to line 4 in column 13. However, the above-noted claim 26 feature is not disclosed or suggested by the description of “Examples of useful silane compounds includes (3-glycidoxypropyl)trimethoxysilane, 2-methoxy(polyethyleneoxy)propyl heptamethyl trisiloxane, octadecyl dimethyl (3-trimethoxysilylpropyl) ammonium chloride and the like.” at line 67 in column 12 to line 4 in column 13 of BARBEE.

Also, the above-noted claim 26 feature is not disclosed or suggested in WO93/11190 referred to in BARBEE. In particular, the above-noted claim 26 feature is not disclosed or suggested by the descriptions at line 26 on page 10 to line 14 on page 14 (in particular, the descriptions with respect to “R¹ groups” and “R groups”) of WO93/11190.

Thus, none of MOHANTY and BARBEE discloses or teaches at least the noted claim 26 feature of “the substituted or non-substituted alkyl group is a substituted first alkyl group, the substituted first alkyl group comprises a substituent selected from the group consisting of an amide linkage, an ester linkage, an N-oxymethyleneamino group, and an N,N-di(oxymethylene)amino group, the substituent bonds to a terminal of the first alkyl group, and the substituent comprises a non-substituted second alkyl group”.

Therefore, independent claim 26, as well as dependent claims 27 – 30 depending therefrom, is believed patentable over the MOHANTY and BARBEE references.

Response to Examiner's Statements in the Final Office Action

At lines 1 – 5 on page 2 of the Final Office Action, the examiner states that “Applicant’s amended instant claims to recite that the limitation that silicate and silane coupling agent are bonded to each other through substituted silyl group.” Claim 1 (now canceled) had been amended to recite, and new independent claims 21 and 26 presently recite, “the organically modified layered silicate comprising a layered silicate and a substituted silyl group, the substituted silyl group bonding to the layered silicate and comprising a substituted or non-substituted alkyl group,...”. Claim 1 (now canceled) was not amended to recite, and nor do the new independent claims 21 and 26 recite, a “silane coupling agent.” Moreover, it is respectfully submitted that the examiner’s statement is not clear, both with respect to the “silane coupling agent”, and with respect to the full context of the sentence. The examiner’s clarification of the statement, preferably with use of the claim language, is respectfully requested.

At page 5 of the Final Office Action, the examiner states that “the amendment to independent claim 1, required clay to be organically modified before it was treated with coupling agents. Based on applicant’s definition of ‘organically modified’ presence of onium compound is now required.” Claim 1 (now canceled) had been amended to recite, and new independent claims 21 and 26 presently recite, “the organically modified layered silicate comprising a layered silicate and a substituted silyl group, the substituted silyl group bonding to the layered silicate and comprising a substituted or non-substituted alkyl group,...”. Claim 1 (now canceled) was not amended to recite, and nor do the new independent claims 21 and 26 recite, “coupling agents,” or an “onium compound.” Moreover, it is respectfully submitted that the examiner’s statement is not clear and appears to be incorrect, both with respect to the

“coupling agents” and “onium compound”, and with respect to the full context of the sentence. The examiner’s clarification of the statement, preferably with use of the claim language, is respectfully requested.

Conclusion

In view of the foregoing, the present application is believed to be in condition for allowance and an early indication to that effect is earnestly solicited.

The Commissioner is authorized to charge any fees to Deposit Account No. 50-4424.

Respectfully submitted,

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